NETWORK NEW MEXICO

A Vision for an Integrated Transmission System to Provide for Transmission of Energy from Production Areas to Load Centers and Electricity Market Hubs

Project (“NETWORK NEW MEXICO”, “NNM”)

By

ZGlobal Inc.

Executive Summary

This paper describes the unique position that the State of New Mexico occupies in relation to the electric transmission system in North America, introduces a vision that lays the groundwork for designing a transmission system to take advantage of New Mexico’s geographic location and vast potential for developing and producing energy, both renewable and conventional and proposes an approach for allocating associated costs.

The key to successfully designing, building and upgrading the electricity infrastructure to meet the needs of the 21st century is to expand the horizon from a local view to a broad-based inter-regional view focused on transferring energy from areas such as New Mexico where generation could be plentiful to load centers and electricity market hubs where electricity demand is centered. Project Network New Mexico is proposed to lay the groundwork for that vision as summarized below.

1. Develop an intra-state integrated transmission plan focused on developing efficient and cost-effective transport of energy from resources to load centers and market hubs designed to provide for fluid interaction between the Western, Eastern and ERCOT Interconnects
2. Establish a regional Independent Transmission Provider (ITP) organization funded by the primary utilities in each state within the Western Interconnect that have large untapped electricity production potential.
3. Coordinate/integrate current proposed independent transmission line projects (Lucky Corridor, SunZia, Southline, Centennial West Clean Line and High Plains Express) with each other and link them directly and indirectly with the independent transmission gateway Tres Amigas Superstation.

Transmission infrastructure is fundamental to the efficient production and delivery of electricity to end-use customers. Prior to electricity deregulation, planning and development of a utility’s transmission system was coordinated with planning and development of power plants that took advantage of the complementary operating characteristics of each resulting in an integrated electric grid. With the advent of electricity deregulation, planning and development of a utility’s transmission system is now based largely on the utility’s process for responding to requests to interconnect to the electrical grid. The result is a piecemeal approach to transmission development to accommodate interconnection of projects to the grid individually or in aggregate. Benefits (economic, technical, environmental and societal) are narrow as the transmission design scope is narrow. That scope needs to be expanded to take a broader view of the region.

Innovation in transmission can take many forms. In Wisconsin, peninsular geography and public hostility to transmission siting conspired to make the grid congested and expensive. Wisconsin policy-makers set up a structure whereby incumbent utilities contributed transmission assets into a for-profit corporation in return for stock. The new single-purpose transmission company, American Transmission Company (ATC), quickly united diverse interests and has successfully taken Wisconsin's grid from "worst to first." This particular approach, business and regulatory reform, worked in Wisconsin but may not be appropriate in other jurisdictions. The point is that policy makers should consider new ideas to address the challenges described herein.

New Mexico is rich in natural resources that allow for large scale electricity production from both renewable and natural gas-fired generation projects. New Mexico's challenge (as well as that of the United States) is to develop the infrastructure to transmit energy from remote generation sites to large load centers across the nation such as Denver, Dallas, Phoenix and Southern California. New Mexico's advantage is its location relative to the nation's separate electricity interconnects, the West Interconnect, East Interconnect and Texas (ERCOT) Interconnect.

By providing for networked electric interconnection of areas rich in energy production potential with load centers and electricity market hubs, Project Network New Mexico can provide the groundwork for the electricity infrastructure needed to drive economic growth in the energy sector much like railroads and the inter-state highway did in the 19th and 20th centuries, and like wireless and fiber optic infrastructure drive economic growth in the telecommunication sector in the 21st century. This is the opportunity for electricity sector to contribute to economic drivers in the 21st century.

Background

New Mexico's Strategic Location Relative to the Electric Transmission Grid

The United States has three transmission interconnection systems serving the nation; the Eastern Interconnect, the Western Interconnect (Western Electric Coordinating Council – WECC), and the Texas Interconnect (Electric Reliability Council of Texas – ERCOT). For the most part, these interconnections operate separately. New Mexico straddles both the Eastern and Western Interconnects affording it the opportunity to export power both eastward and westward[1]. New Mexico is also adjacent to ERCOT, which allows for energy transfer between ERCOT and the Western and Eastern Interconnects.

[1] A portion of eastern New Mexico is electrically connected to the Southwest Power Pool (SPP), which resides in the Eastern Interconnect. The remainder of New Mexico is electrically connected to the Western Interconnect.

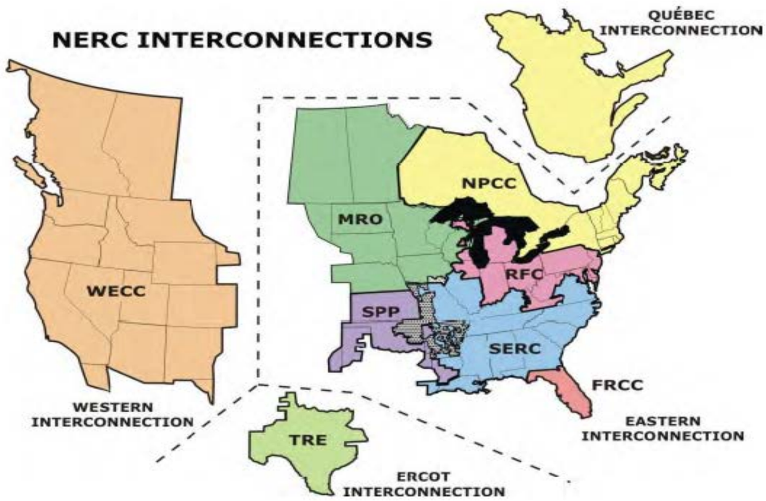

Figure 1 – New Mexico's Location Relative to the Three Electric Interconnects

Thus far, the majority of the focus on developing New Mexico's renewable energy has been with the idea of exporting out-of-state to the western markets such as Phoenix, San Diego and Los Angeles. However, there are significant opportunities to export power to eastern markets particularly as more states adopt renewable portfolio standards, environmental restrictions force the retirement of high emission generation facilities and economic growth drive the need for additional electricity production[2]. Access to the eastern markets has been limited because the Eastern and Western Interconnects are not electrically interconnected except for a handful of minor direct current (DC) links[3].

The power grid throughout much of the nation is characterized by mature, heavily loaded transmission systems isolated by region and designed to carry electricity from large scale conventional generation facilities to load centers located relatively close by. Upgrades to the electrical grid are largely aimed at addressing specific, localized network constraints or to accommodate requests to interconnect independent electricity generation projects to the grid. This approach allows individual utilities to address local transmission system deficiencies and interconnect electricity generation projects to the electric grid, but does not allow for comprehensive solutions that incorporate renewable energy, conventional generation projects and other new technologies such as storage to satisfy demands for electricity, renewable energy and access to markets on a broad scale.

The Western Interconnection consists of nearly 40 separate, independent balancing authorities each responsible for electricity reliability in its individual area. The balkanized structure of the Western Interconnect reinforces the approach to addressing the needs of upgrading the electrical grid in a fashion which may solve local individual transmission issues, but does not allow for modernizing the electric grid in response to requirements of the 21st century.

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[2] ERCOT May 22, 2012 News Release, "New Report Reinforces Future Electric Resource Adequacy Concerns – Additional Capacity, Conservation and Other Tools Needed to Ensure Future Electric Reliability", http://www.ercot.com/news/press_releases/show/518

[3] Two connections reside in New Mexico (Blackwater and Eddy stations), one in Colorado (Lamar station), two in Nebraska (David A. Hamil and Virginia Smith stations), one in South Dakota (Rapid City station) and one in Montana (Miles City station). The proposed Tres Amigas project near Clovis, New Mexico would act as an expansive gateway between all three interconnections thereby opening up electricity markets to allow for energy to flow freely between the interconnections.

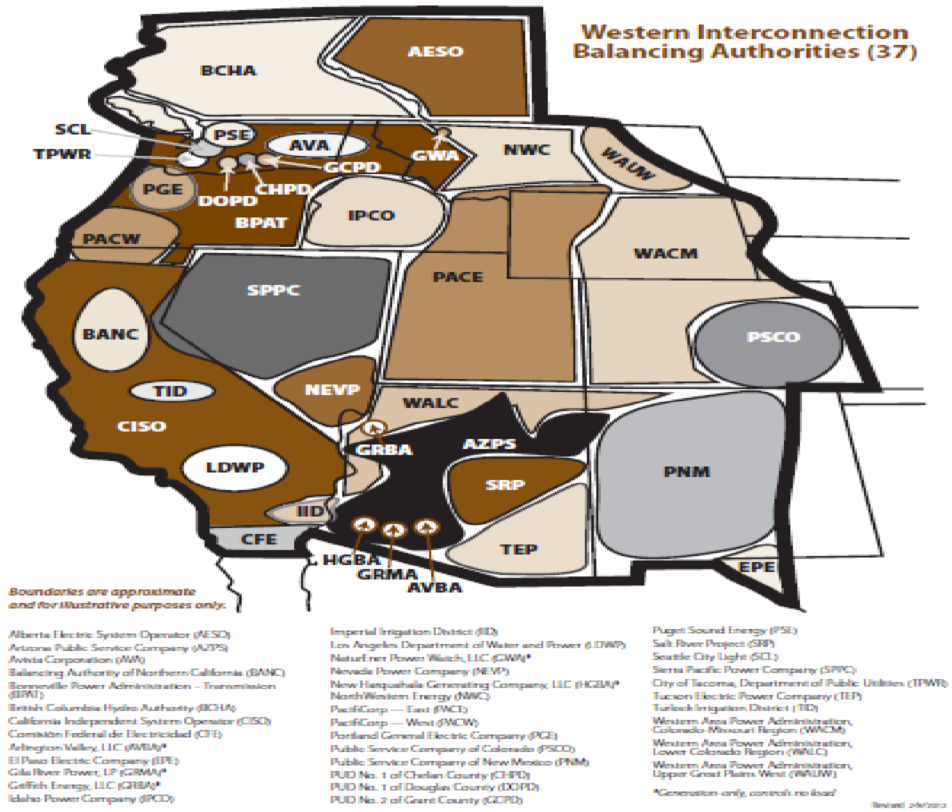

Figure 2 – List of Independent Balancing Authorities in the Western Interconnect[4]At the state level,

New Mexico is served primarily by three investor owned-utilities, Public Service Company of New Mexico (PNM), El Paso Electric (EPE) and Xcel Energy (SPS)[5] , two generation and transmission cooperatives, Tri-State Generation and Transmission Association (Tri-State) and Western Farmers Electric Cooperative (WFEC), 19 rural distribution cooperatives[6] and five municipalities. The utilities' transmission systems are designed to serve local customers and though somewhat interconnected they are not integrated. These independent systems designed to provide electricity to each utility's individual customer bases do not provide much of an opportunity to transfer energy to each other or reach other markets.

[4] Map and List of Western Electricity Coordinating Council (WECC) Balancing Authorities as of February 8, 2012, http://www.wecc.biz/library/WECC%20Documents/Publications/Balancing%20Authorities.pdf

[5] Southwestern Public Service (SPS) is a wholly-owned subsidiary of Xcel.

[6] Note that SPS had historically provided full requirements wholesale electricity to four eastern New Mexico rural distribution cooperatives but served notice that it would no longer do so. This has required the four distribution cooperatives to transition to a new wholesale electricity supply from Western Farmers Electric Cooperative beginning in 2010.

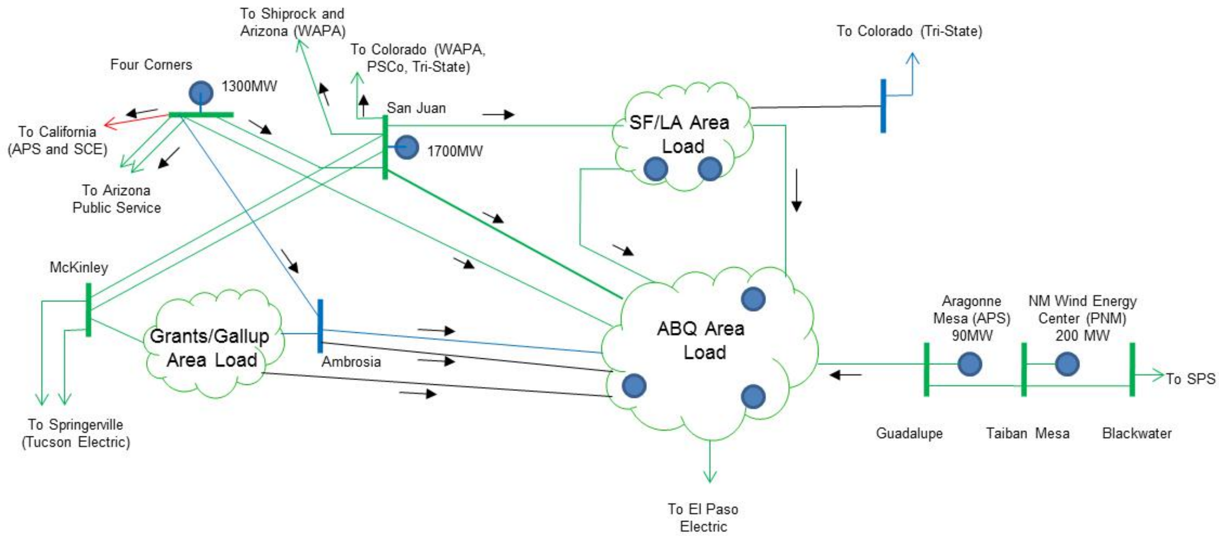

Figure 3 – High Level Diagram of PNM's Electric System

The result is that the United States is facing an electricity infrastructure dilemma. Many studies have shown that the United States could develop quantities of wind, solar and geothermal energy resources well in excess of future projected electricity needs. However, the nation's existing bulk electric transmission system is inadequate to deliver energy from remote resource-rich areas such as New Mexico to electrical load centers.

The Federal Energy Regulatory Commission (FERC) has recognized the need for a more comprehensive approach toward development of the electrical grid, most recently with the issuance of its Order No. 1000, which requires not only regional but also inter-regional transmission planning processes be convened. Order No. 1000 also addresses a number of issues critical to deployment of new transmission infrastructure, including expanding the potential for non-traditional owner/sponsorship of new inter-regional transmission facilities.

The State of New Mexico has recognized the need for coordinated planning of its transmission system. Former governor Bill Richardson issued Executive Order 2010-27 creating a task force to prepare recommendations and steps to enhance the statewide electricity transmission grid, including any appropriate collector systems, construction financing, and cost-recovery options. This task force published a list of recommendations the most important of which described the need to host a Southwestern States Transmission Summit to address interstate transmission line development which would lead to an on-going working group process[7].

Proposal – Project Network New Mexico

The nation's highways, railroads, and telecommunications systems that connect regions, states, and communities are vehicles that drive economic growth. However, the nation's power grid is regional in nature and as a result benefits that are realized from modernizing and upgrading the electrical grid are limited and do not take advantage of diversity between regions. By interconnecting regions and

[7] "New Mexico Electricity Transmission Planning Report" November 1, 2010, Submitted by Governor Richardson's Task Force on Electricity Transmission Planning, http://www.emnrd.state.nm.us/main/documents/NMElectricityTransmissionReport.pdf

developing the nation's electric power transmission system as a robust interstate grid, the groundwork for economic growth would be established.

1. Project Network New Mexico has three major components: (1) Development of an intra-state integrated transmission plan focused on developing efficient and cost-effective transport of energy from resources to load centers and market hubs designed to provide for fluid interaction between the Western, Eastern and ERCOT Interconnects, (2) Establishment of a regional Independent Transmission Provider (ITP) organization funded by the primary utilities in each state with the Western Interconnect that have large untapped electricity production potential, (3) Coordinate and integrate the current proposed independent transmission projects into a cohesive design that satisfies the objective of providing an inter-state highway system linking New Mexico generation with load centers and electricity market hubs.

Integrated Transmission Plan

Historically, WECC has provided the vehicle for coordination among utilities and balancing authorities throughout the Western Interconnect. Although WECC has provided a forum for balancing authorities and utilities to coordinate transmission planning efforts, the focus of those efforts has primarily been on communicating intra-utility and intra-balancing authority transmission plans to other Western utilities and balancing authorities and the effect on grid reliability. An integrated transmission plan with a broad view of the Western Interconnect and its relation to the Eastern and ERCOT interconnects, while not losing sight of the need to ensure reliability, that looks to link electricity market hubs and load centers with generation resources would provide the mechanism for ensuring that the cost of building the infrastructure necessary to transfer energy from a location of surplus to another of deficiency is minimized, while maximizing usage of the existing transmission system. In a free-flowing market, electricity will flow from areas of low cost (energy surplus) to high cost (energy deficiency). In the example below, electricity flows from the low priced market hubs of Palo Verde on the California/Arizona border, Tres Amigas on the New Mexico/Texas border, and ERCOT North in North Texas, to the higher priced hubs of SP15 in California, TVA in Tennessee, Cinergy and PJM-West in Illinois. Prices and electricity availability are dynamic based on conditions at specific times. This example illustrates electricity flow from the low-cost Southwest to the higher-cost hubs west and east.

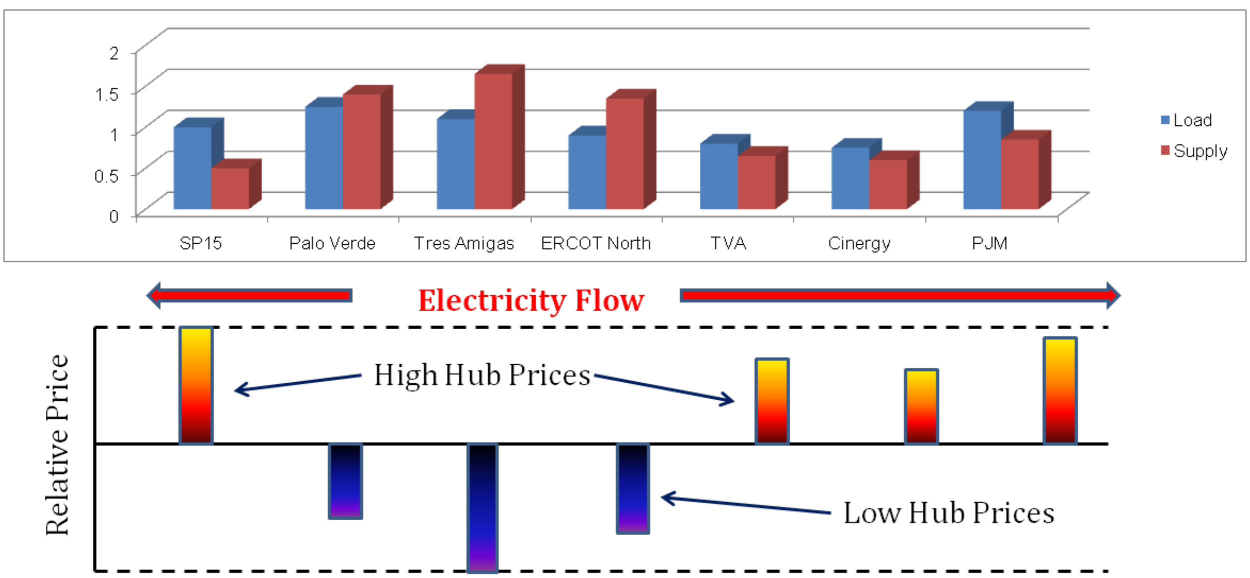

Figure 4 – Diagram of Electricity Flow between National Market Hubs

When electrical transmission or other factors limit the ability of electricity to flow freely between market hubs, the result is the need to re-allocate the energy production to account for the inability to freely flow between market hubs, which results in artificially high prices in areas where energy shortages exist and artificially low prices where energy is abundant. The diagram below illustrates the restriction between hubs with red lines. For example, energy flow from Tres Amigas and ERCOT North to Palo Verde and SP15 is restricted. The result is the need to increase supply at Palo Verde and SP15 (which increases prices), decreasing generation at Tres Amigas and ERCOT North (which decreases prices).

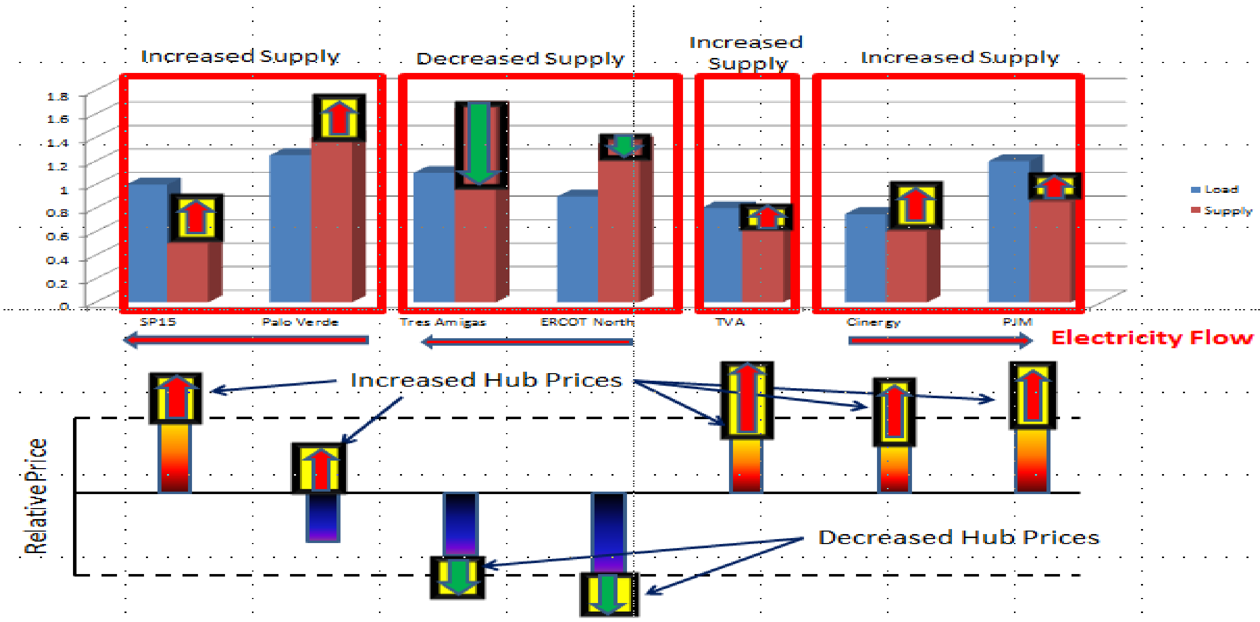

Figure 5 – Diagram of Restricted Electricity Flow between National Market Hubs

An integrated transmission plan that takes into account the potential for inter-regional transfer of energy allows for reduced costs and increased benefits.

As an example, it seems reasonable to expand the vision of the proposed Lucky Corridor Transmission Project that is designed to transport energy from proposed solar, wind and natural-gas fired generation in southern Colorado and northern New Mexico to Four Corners, which is an electricity market hub in the West that is electrically connected to Arizona, Colorado and California to create an option for that energy to transported east as well. Expanding that concept to other proposed New Mexico transmission projects such as SunZia, Southline, Centennial West Clean Line, High Plains Express and Tres Amigas provides a big picture view of the ability for New Mexico transmission projects to transport electricity east, west, north and south to open electricity markets to developers and load serving entities.

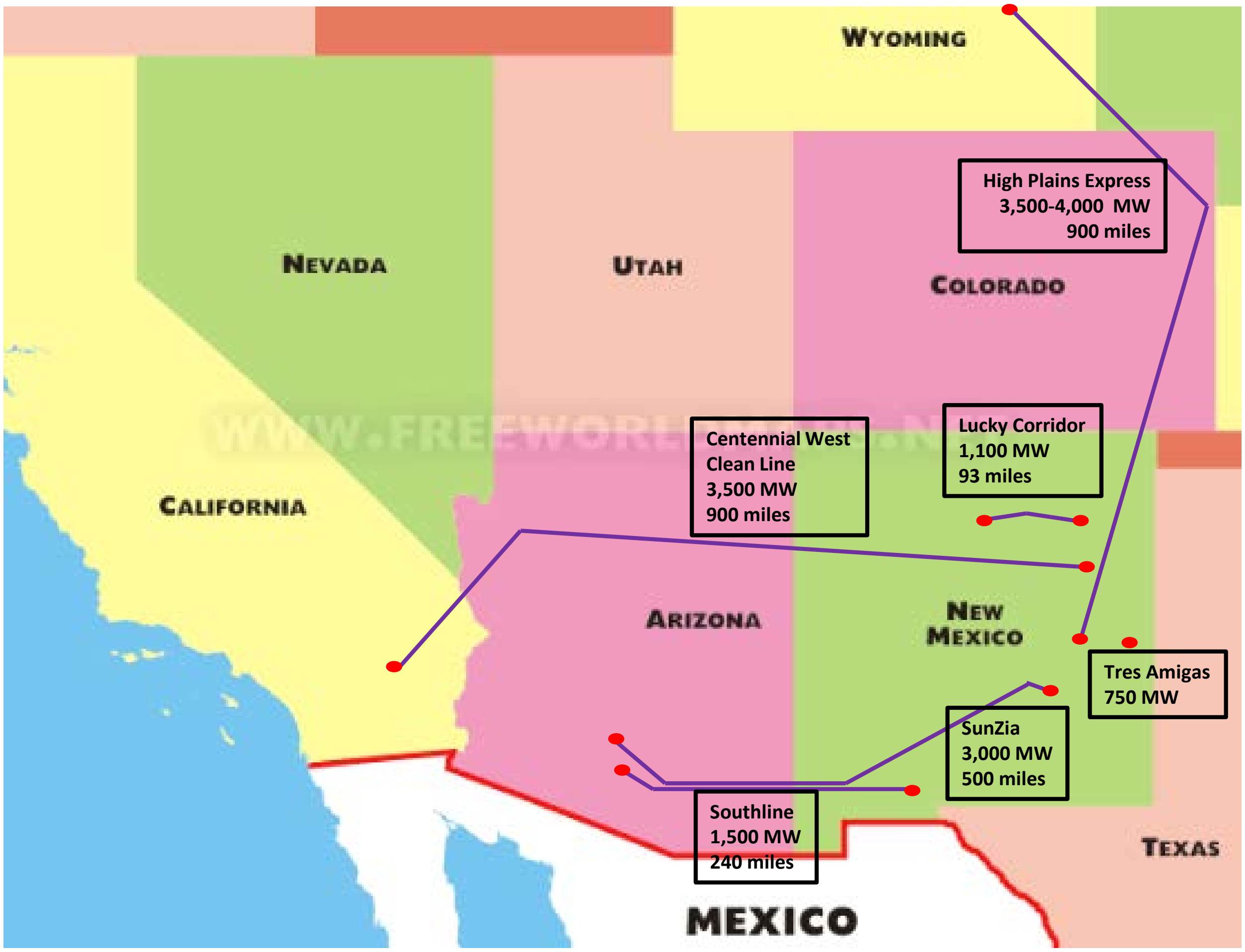

Figure 6 – High Level Overview of Proposed Transmission Projects in New Mexico

Figure 6 overlays the high profile transmission projects proposed for New Mexico by independent transmission developers. Each individually has merit. Integrated into a broad-based, coordinated plan with a clear objective of linking New Mexico's generation potential with major load centers and electricity hubs creates the infrastructure to unlock that potential.

Reserve Sharing

In addition to benefitting from transferring energy, utilities can receive reliability and economic benefits from reserve sharing. Balancing Authorities and individual utilities have the obligation to ensure reliability of electric service. One of the obligations is to ensure that a sufficient amount of Contingency Reserve is available at all times. Contingency Reserve is unloaded capacity that can be converted to energy when unplanned events or disturbances such as when generator or transmission outages occur. A good analogy for Contingency Reserve is a car with maximum horsepower of 100 requiring 70 horsepower to travel at 60 mph on a flat road. The car would have 30 horsepower of Contingency Reserve that can be called upon if needed to remain at 60 mph when going up a hill.

The North American Electric Reliability Corporation (NERC) is the entity that publishes reliability standards to which Balancing Authorities adhere. Contingency Reserve is addressed in Reliability Standard BAL-002. BAL-002 stipulates that each Balancing Authority shall have access to and/or operate Contingency Reserve to respond to disturbances on the electric grid. Each Balancing Authority is required to carry enough Contingency Reserve to cover the Balancing Authority's most severe outage or in the West, 5%-7% of its load when that amount is larger than the most severe contingency. BAL-002 allows Balancing Authorities to fulfill its Contingency Reserve obligations by participating in a Reserve Sharing Group (RSG).

An RSG allows Balancing Authorities to share generation resources' capabilities to respond to outages so that each Balancing Authority does not have to individually carry a full Contingency Reserve amount. This ensures that the electrical grid has enough Contingency Reserve in aggregate while reducing obligation and costs to the individual Balancing Authorities.

Benefits of Reserve Sharing

RSGs are established throughout the United States. In the West, two of the main RSGs are the Southwest Reserve Sharing Group and the Northwest Power Pool. Contingency Reserves are typically determined by the ratio of individual entities' customer load to the RSG's aggregate load. That way, an individual Balancing Authority can lower its cost of operation by reducing the amount of unloaded capacity that it has to carry to meet its Contingency Reserve obligation.

Example
Balancing Authority's Load and Resources
Load = 100 MW
Generator #1 operating at 10 MW
Generator #2 operating at 20 MW
Generator #3 operating at 30 MW
Generator #4 operating at 40 MW

In this example, the Balancing Authority would have to carry Contingency Reserve = 40 MW, which is the largest single contingency.

If the Balancing Authority was part of an RSG with an aggregate load of 1,000 MW and the entire RSG had a Contingency Reserve obligation of 70 MW in aggregate, then the Balancing Authority could reduce its Contingency Reserve to roughly 10% of 70 MW or 7 MW (10% is assumed because the Balancing Authority has 10% of the RSG's aggregate load, i.e., 100MW/1,000MW). This is significant because a 40 MW Contingency Reserve obligation could force the Balancing Authority to fire an additional resource to provide 40 MW of unloaded capacity, whereas 7 MW of Contingency Reserve can be more easily managed without the need to fire an additional resource.

In addition to RSGs, capacity can be exchanged between Balancing Authorities via commercial transactions. Much like energy, a Balancing Authority can sell excess capacity to a purchasing Balancing Authority reducing the purchasing Balancing Authority's need to supply its Contingency Reserve obligation from generators within its boundaries.

In competitive markets where Contingency Reserves are bought and sold, prices are tied to marginal energy prices. The higher the energy prices, the higher the cost of Contingency Reserves. At a natural gas price of approximately $3/mmbtu, the cost of Contingency Reserves has been in the $2/MW - $5/MW range depending upon location and market. However, during times of shortages in the summer peak when energy prices spike to triple digits, Contingency Reserve prices rise markedly reflecting the shortage in electricity availability.

Need for Transmission Capacity

The key to sharing Contingency Reserves is transmission availability between Balancing Authorities. Transmission paths with unloaded transfer capacity in amounts sufficient to transfer power to the Balancing Authority that is acquiring Contingency Reserves are critical. Without adequate transmission capacity, the ability to take advantage of RSGs or buy/sell Contingency Reserves is limited.

Tres Amigas' strategic location between WECC, SPP and ERCOT expands the opportunity for sharing of Contingency Reserves between Balancing Authorities that has not been accessible. By opening a gateway between the regions, Tres Amigas provides the opportunity for Balancing Authorities that historically have not been able to exchange reserves to do so, thereby enhancing reliability, increasing efficiency, advancing opportunities for generators with excess capacity to sell power and decreasing costs to consumers.

An integrated transmission plan that takes a broad view brings tremendous benefits to the utilities that serve New Mexico and developers that look to build generation projects in New Mexico as they can buy from and sell energy to markets beyond the local hubs, increasing efficiencies, maximizing use of transmission assets and reducing the impact of electricity generation to the environment. The benefits realized by New Mexico utilities and developers flow to the residents of New Mexico by priming the energy sector economy.

Independent Transmission Provider (ITP)

The current approach to coordination among the western states, whereby each state's electric transmission system is operated independently by one or more balancing authorities[8] responsible for operation and transmission planning has worked in the past. However with the demands of the 21st century, increased complexity, new efforts to incorporate renewable energy projects and new technologies onto the electric grid, the need for coordination and integration has reached new levels. Despite efforts by the various transmission planning groups in the region, new FERC orders, the Western Area Power Administration's outreach efforts and organizations such as the Western Governors' Association, we have not seen meaningful movement toward the type of interstate transmission highway system that connects the areas of potential generation surplus with load centers and electricity market hubs. In fact, evidence has shown that despite well intentioned efforts of many states, regional and local jurisdictions interstate transmission development is lacking and unless real reform takes place, the region will miss a great opportunity to make tangible progress toward an electric grid designed to meet the demands of the 21st century.

Developing an ITP could use FERC's June 2010 Notice of Proposed Rulemaking (NOPR)[9] as the foundation. The FERC NOPR provides for:

1. Transmission planning (local and regional) that accounts for public policy requirements established by state or federal laws/regulations
2. Coordination between neighboring transmission planning regions with respect to inter-regional facilities that could more efficiently address transmission needs than separate intra-regional facilities.
3. Removal of any right of first refusal by incumbent utilities to develop transmission projects

[8] Arizona by itself consists of 8 separate balancing authorities, 4 of which are traditional utility-based balancing authorities and 4 which are generator-only balancing authorities.

[9] FERC Docket no. RM10-23-000, "Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities, issued June 17, 2010.

4. Requirement of transmission providers to establish a link between cost allocation and regional transmission planning in which beneficiaries are identified.

With respect to transmission development cost-recovery for interstate lines, it is recommended that the primary utilities in the Western Interconnect form an ITP. The ITP would be regulated by FERC with state input. The ITP would propose a regional cost allocation of transmission cost similar to that which is in place in a number of mid-western and Southwest Power Pool states.

It is understood that the cost allocation of transmission is a difficult subject and that no individual state should bear the cost of inter-regional transmission designed to transport electricity from remote generation facilities to load centers and electricity market hubs. However, FERC's and the Southwest Power Pool's approach to transmission allocation, although not perfect, are viable models for addressing cost allocation conundrums.

Conceptual Idea

Project NNM's vision is to connect the principal electricity marketing hubs via an inter-state transmission highway. These market hubs include Eldorado on the California/Nevada border, Palo Verde on the California/Arizona border, Tres Amigas on the New Mexico/Texas border, ERCOT North in Texas, TVA in Tennessee, and Cinergy in Illinois and PJM-West east of Illinois. The first step toward that vision is to design a transmission network within a region that has the potential for vast amounts of clean natural-gas fired and renewable generation. That region is New Mexico, which has a number of transmission projects already proposed.

Considerable work is needed to perform a comprehensive analysis of the benefits versus the cost of Project NNM. Initial analysis suggests that the benefits may be considerable. From a high level, this concept would provide maximum access to wind resources throughout the country with cost and transmission reliability given appropriate consideration as well. Notably, interconnecting 5 to 10 GW of new sources of generation may be attainable with this plan over time. While this is simply one of any number of designs that could be considered, ZGlobal believes that the national scope of this approach, coupled with state of the art energy management systems, will create a robust platform that increases access to renewable and conventional energy sources, and facilitates a regional competitive energy marketplace.

Phased Development

New Mexico currently has a number of independent transmission projects in various states of development. Each of these projects could be coordinated in a manner that integrates the benefits of each on a more broad-based scale. Implementation phases are summarized below.

Phase 1: Tres Amigas Superstation

Sited near Clovis New Mexico, Tres Amigas is designed to interconnect to three points.

1. Western Interconnect – Blackwater Substation
2. Eastern Interconnect – Tolk Substation
3. ERCOT Interconnection – Sweetwater Substation

Phase 2: Lucky Corridor

Sited between Gladstone and Taos New Mexico

1. 93 mile double circuit 230 kV transmission line
2. Extending Lucky Corridor to interconnect with Tres Amigas provides a link between New Mexico, Arizona, Colorado, California and Texas (both Southwest Power Pool and ERCOT)

Phase 3: SunZia and Southline

SunZia is sited between a location south of Corona New Mexico and south of Coolidge Arizona, while Southline is planned to span Afton, New Mexico and Tortolita, Arizona near Tucson

1. 500 miles of two single circuit 500 kV transmission lines (SunZia)
2. 240 miles of double circuit 345 kV transmission lines (Southline)
3. Integrating SunZia and Southline to provide for interconnection with Tres Amigas establishes a link between Southern California, Arizona, New Mexico and Texas (both Southwest Power Pool and ERCOT)

Phase 4: Centennial West Clean Line

The sites are to be determined but proposed to be between northeastern New Mexico and southern California.

1. 900 mile direct current transmission line
2. Extending Centennial West Clean Line to interconnect with Tres Amigas provides a link between Arizona, New Mexico and Texas (both Southwest Power Pool and ERCOT)

Phase 5: High Plains Express

The sites are to be determined but proposed to be between eastern Wyoming and southern Arizona.

1. 750 miles of two single circuit or double circuit 500 kV transmission lines (between Wyoming and New Mexico)
2. Extending High Plains Express to interconnect with Tres Amigas provides a link between Wyoming, Colorado, New Mexico and Texas (both Southwest Power Pool and ERCOT)

By linking the individual projects in phases, a sturdy transmission backbone spanning California, Texas and Wyoming can be developed acting as an interstate electricity highway linking major areas of generation to load centers and electricity market hubs.

The table below summarizes the initial NNM transmission backbone broken out by phases. Considerable work is needed to get a more definitive route and cost, as these numbers represent only high-level estimates.

Phase	**1**	**2**	**3**	**4**	**5**
Description	**Tres Amigas to SPP, ERCOT and PNM**	**Lucky Corridor to Tres Amigas**	**SunZia and Southlline to Tres Amigas**	**Centennial West Clean Line to Tres Amigas**	**High Plains Express to Tres Amigas**
Electricity Market Hubs Linkages	SPP, ERCOT, Four Corners	SPP, ERCOT, Four Corners	SPP, ERCOT, Four Corners, Palo Verde	California SP15, SPP, ERCOT, Four Corners	SPP, ERCOT, Four Corners
Major Load Centers Linkages	Texas, Arizona, Southern California	Texas, Arizona, Colorado, Southern California	Texas, Arizona, Southern California	Texas, Arizona, Colorado, Southern California	Texas, Arizona, Colorado, Southern California

Table 1 – NNM EHV DC Segments

Coordinated Regulatory Approvals

There are undoubtedly significant challenges to overcome before such an aggressive plan could become reality. Beyond engineering, perhaps the most significant challenge facing any significant interstate transmission project is the plethora of regulatory approvals needed, and the number of jurisdictions from which approvals must be secured. In addition, transmission expansion requires certainty of cost recovery for investors, which is often not easy to come by, especially when crossing state lines, various balancing authorities, and operational boundaries. And finally, a surprisingly large hurdle to overcome is the inertia of resistance to change in an industry that is conservative by nature and slow to embrace changes that affect operational independence.

Although this vision proposes large changes with exciting opportunities the expectation is that the proposal may be contentious with strong convictions on all sides. Regulators and electric industry leaders must be willing to strike a balance in the interest of public policy that will further the national goal of enhancing the nation's electric grid and preparing it for the integration of new technologies. FERC's recent Order 1000 affirms this and will provide a timely platform for this coordination.

Conclusion

Project Network New Mexico is a visionary approach to transmission infrastructure development in New Mexico and the West to Western to move forward with modernizing the nation's electric grid in a fashion that can pay dividends for the foreseeable future by providing for:

- Establishment of the groundwork for an inter-state transmission highway to seamlessly transport energy from areas of abundance to load centers and electricity market hubs
- An approach for establishing a broad-based view of electric infrastructure development
- An environment that is conducive to development of energy resources in areas such as New Mexico that are rich in potential

Innovation can take many forms, as discussed in this paper and the example of ATC in Wisconsin. The transcontinental railroad and inter-state highway system have been engines to drive economic growth throughout the 19th and 20th centuries. The telecommunication systems (both wireless and fiber-based) are today's drivers of economic growth. The vision of Project NNM, development of the inter-state electric transmission highway, which links supply and demand to market hubs, is the electric utility industry's opportunity to contribute to the economic drivers of our generation.